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AUTHOR Balch, Philip; And Others
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ABSTRACT

Relative to other treatment modalities for obesity, behavioral strategies, particularly self-control, have been established as effective means of weight loss and control. While most of the early research reported the presence of live professional therapists treating individuals or groups, more recent interest has focused on programs using little or no live therapist contact and use of paraprofessionals as behavioral weight therapists. This paper outlines the findings of three independent but coordinated investigations, with a total sample of 142 treated subjects, in which the treatment effectiveness of trained and untrained paraprofessionals, telephone therapy, nurses, and bibliotherapy with and without feedback were examined. The population for all three studies were college students at the University of Arizona. Findings, with six month follow-up data, indicate significant within-group losses with no between-group differences. Discussion focuses on the effectiveness and relative efficiency of low or no therapist contact and the uses of professionals as trainers and consultants. (Author)

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DELIVERY STRATEGIES IN BEHAVIORAL OBESITY TREATMENT:

COMPARING TYPE AND DEGREE OF THERAPIST CONTACT IN TREATING THE OBESE

Philip Balch,[1] Koreen Balch,[2] and Daphne Albright-Dilley

University of Arizona

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[1]Psychology Department, University of Arizona, Tucson, Arizona 85721

[2]Student Health Service, University of Arizona

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DELIVERY STRATEGIES IN BEHAVIORAL OBESITY TREATMENT:

COMPARING TYPE AND DEGREE OF THERAPIST CONTACT IN TREATING THE OBESE

Relative to other treatment modalities for obesity, behavioral strategies, particularly self-control, have been established as effective short term means of weight loss and control (Abramson, 1973; Stunkard & Mahoney, 1976). More recently there has been an interest in examining treatment strategies requiring less direct therapist contact in an effort to determine parameters governing successful implementation of these self-control treatment packages.

Hagan (1974) compared a group of individuals who heard lectures on Multiple emphasis behavior modification information (i.e., information on social reinforcement, relaxation training, self-monitoring of eating behavior, stimulus control, aversive consequences of overeating, chaining of responses, and aversive imagery) in a group setting with clients who individually received the information through weekly correspondence lessons (i.e., bibliotherapy) and third group of clients who heard the material presented weekly in a group and received bibliotherapy as well. A no treatment control group was also included in the design. Hagan found no differences in weight loss between any of the behavioral groups; the subjects treated via correspondence lessons without direct therapist contact lost as much weight and maintained the losses as well as clients treated in group setting. Clients who attended group meetings reported the behavioral treatment to be more helpful than those who received the written treatment by mail. However, as this difference was not reflected in weight losses for the different groups, it may have been more a perceived difference than a real one.

Fernan (1973) used Hagan's (1974) treatment manual in a comparison of groups of clients who had regular, continual therapist contact and received behavior modification information in its entirety or unit-by-unit (similar to Hagan's weekly correspondence lessons) with subjects who did not have therapist contact and received the information either at one time or unit-by-unit. He found that the group who met with the therapist and received the treatment information unit-by-unit lost the most weight relative to the other three treatment groups. Contrary to Hagan's results, which indicated that those subjects who did not meet with a therapist or in a group setting lost an equivalent amount of weight to those who met with a therapist, Fernan found that one group of clients who had personal contact with a therapist lost significantly more weight than clients who did not meet with a therapist.

A study by Bellack, Schwartz, and Rozensky (1974) included a group of clients who met weekly with a therapist and received both behavior modification information and mild social reinforcement for progress. This group was compared to clients who received bibliotherapy with no therapist daily. This second group had a minimal amount of contact with the therapist relative to the first group, but were still subject to some external control over their eating behavior by the therapist. The study also included a group of clients who received bibliotherapy at the beginning of treatment, and were not contacted again until the end of the treatment period; they were considered to be a control group for effects of external control exerted by the therapist. The authors reported that there were no differences between the weight losses for the therapist contact and the mail contact bibliotherapy groups (the two groups affected by external control), but that both of these behavior modification groups showed significantly greater weight losses than the no contact bibliotherapy group. Bellack et al. concluded that any form of external control, even if minimized to the extent of their mail contact bibliotherapy group, was a necessary and possibly sufficient condition for weight loss during treatment.

Bellack (1976) compared four groups with minimal or no therapist contact using a behavioral package of stimulus control techniques, limitation of caloric intake, and self-monitoring procedures. He found that when clients given behavioral information were taught to self-reinforce their eating behaviors and behavior changes, regular contact with a therapist was not necessary to produce a significant weight loss. Self-reinforcing clients with no therapist contact lost as much weight as those self-reinforcing clients who had therapist contact, and significantly more than clients with or without therapist contact who were not reinforcing their own eating behaviors. His findings support Hagan's conclusion that regular contact with a weight therapist may not be necessary to produce significant and meaningful weight losses.

This paper concerns the findings of three independent investigations with a total of 142 subjects, conducted at the Psychology Department and Student Health Service of the University of Arizona over the past three years. These investigations taken together, compare and contrast the treatment effectiveness of various low and no therapist contact strategies for delivering behavioral self-control treatment for obesity.

The population for all three investigations were college students at the University of Arizona and the treatment program was basically that outlined by Stuart and Davis (1972) with modifications (Balch & Ross, 1974). The first investigation to be reported is that conducted by Lindstrom, Balch and Reese (1976) and investigated the effectiveness of live therapist contact (trained vs. untrained paraprofessionals vs. a trained professional) in contrast to telephone therapy for weight reduction. The three in-person treatment groups met weekly for ten weeks, receiving didactic instruction in behavioral weight control. The telephone contact group, conducted by the trained professional therapist, received a two minute call each week. Training for the two selected undergraduate students consisted of a total of six hours of meetings (two hours for each of three weeks) before the beginning of the treatment program, and included didactic presentations of behavior modification principles, reading assignments, role playing and rehearsal opportunities. Supervision meetings and an opportunity to observe meetings conducted by the professional were also afforded the trained paraprofessionals.

The findings showed that all four groups were equally as effective in producing significant differences in weight and percent obesity compared to the treatment control group. Of particular interest here is the finding that there were no differences between the combined in-person groups and the telephone contact group. Figure 1 presents weight changes, by individuals for all five groups at follow-up (six weeks), and Table 1 illustrates mean changes in weight and percent obesity at the end of treatment and follow-up for the combined in-person and telephone treatment controls.

Insert Figure 1 and Table 1 About Here

The second study conducted by Balch and Balch (1976) involves the results after the first year of operation of a campus-wide behaviorally oriented weight reduction and control program established and offered through a University Student Health Service. In addition to examining the feasibility of integrating and offering such a behavioral program in a medical setting this study compared the treatment effectiveness of professional (a behaviorally trained psychologist and social worker) and paraprofessional (nurses with no prior training or experience as behavioral therapists) group leaders in conducting such treatments with groups of

students. The nurses' training, conducted in the semester prior to that during which these groups were run, is similar to that described earlier in the Lindstrom et al. study. During the conduct of this program the four staff members met once weekly for a supervision and coordination meeting. The findings for this study that all four treatment groups experienced significant weight losses, maintained at follow-up (one month), with no between-group differences supports the contention that such programs can be administered by diverse professionals and paraprofessionals in a group treatment paradigm as well as demonstrates the compatability of such a behavioral program in a medical setting. Figure 2 presents changes in descriptive information and change measures for the four treatment groups.

Insert Figure 2 and Table 2 About Here

The most recent study was conducted by Dilley (1977) and was undertaken to further examine the type and extent of therapist contact necessary for successful treatment. The study was conducted as part of the continuously operative Student Health Service campus-wide weight reduction program described earlier and compared the treatment effectiveness of four group conditions: 1) groups meeting with a trained nurse for nine weeks; 2) groups meeting with a trained nurse for six weeks, with three additional weeks of brief individual contacts; 3) a condition in which individuals met briefly (five minutes) each week with a therapist; 4) a condition in which individuals weighed in each week, received bibliotherapy, but had no contact with a trained therapist. Results indicated that all four treatment groups lost significantly more than the waiting list control group. There were no between-group differences. Results maintained at a six month follow-up. These findings also support the idea of the influence and possible necessity of at least minimal amounts of external control and the efficacy, for some individuals, of low and no therapist contact in successful weight control. Figure 3 indicates individual weight losses at six month follow-up and Figure 4 displays mean weights of individuals by treatment groups.

Insert Figures 3 and 4 About Here

DISCUSSION

These three coordinated studies support the effectiveness and relative efficiency of low or no therapist contact in the conduct of behavioral self-control weight reduction programs with college populations. These studies suggest that groups, or individual treatment, conducted by professionals, live or over the telephone, trained or untrained paraprofessionals, or just an external monitor when combined with the behavioral steps to weight control (i.e., bibliotherapy) are equally effective in producing weight loss. These findings should be of importance to those responsible for providing such programs when time, staff, money, or other short resources prohibit or restrict a more traditional live professional contact approach.

While we are pleased that the data reported here are based on actual, realistic and operating treatment programs we are also aware of the limitations of this research. We are not currently able to separate out the effects of the behavioral information package, from those that might be more specifically related to the external monitor effect. Also, while efficiency and effectiveness are crucial issues, satisfaction with care may become a problem as therapist or live contact is further removed from these programs. In addition to these issues, research aimed at determining what clients, in what treatment settings, would most benefit from which delivery strategy is much needed.

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TABLE 1

Mean changes in weight and percent obesity at end of treatment and follow-up for the combined in-person and telephone treatments versus the controls[1]

Conditions	Weight change in lbs.				Obesity change in %			
	End of Treatment		Follow-up		End of Treatment		Follow-up	
	$\bar{X}$	F	$\bar{X}$	F	$\bar{X}$	F	$\bar{X}$	F
I (N = 35) (Combined in-person)	-6.0	5.05**	-6.6	4.05**	-5	5.63***	-5	4.55**
II (N = 10) (Telephone contact)	-5.4	2.40	-7.0	2.84*	-5	3.70**	-7	4.18**
III (N = 12) (Controls)	-.70		-.30		0		0	

* .10

** .05

*** .01

1. There were no differences between I and II, in weight or obesity change, at either end of treatment or follow-up.

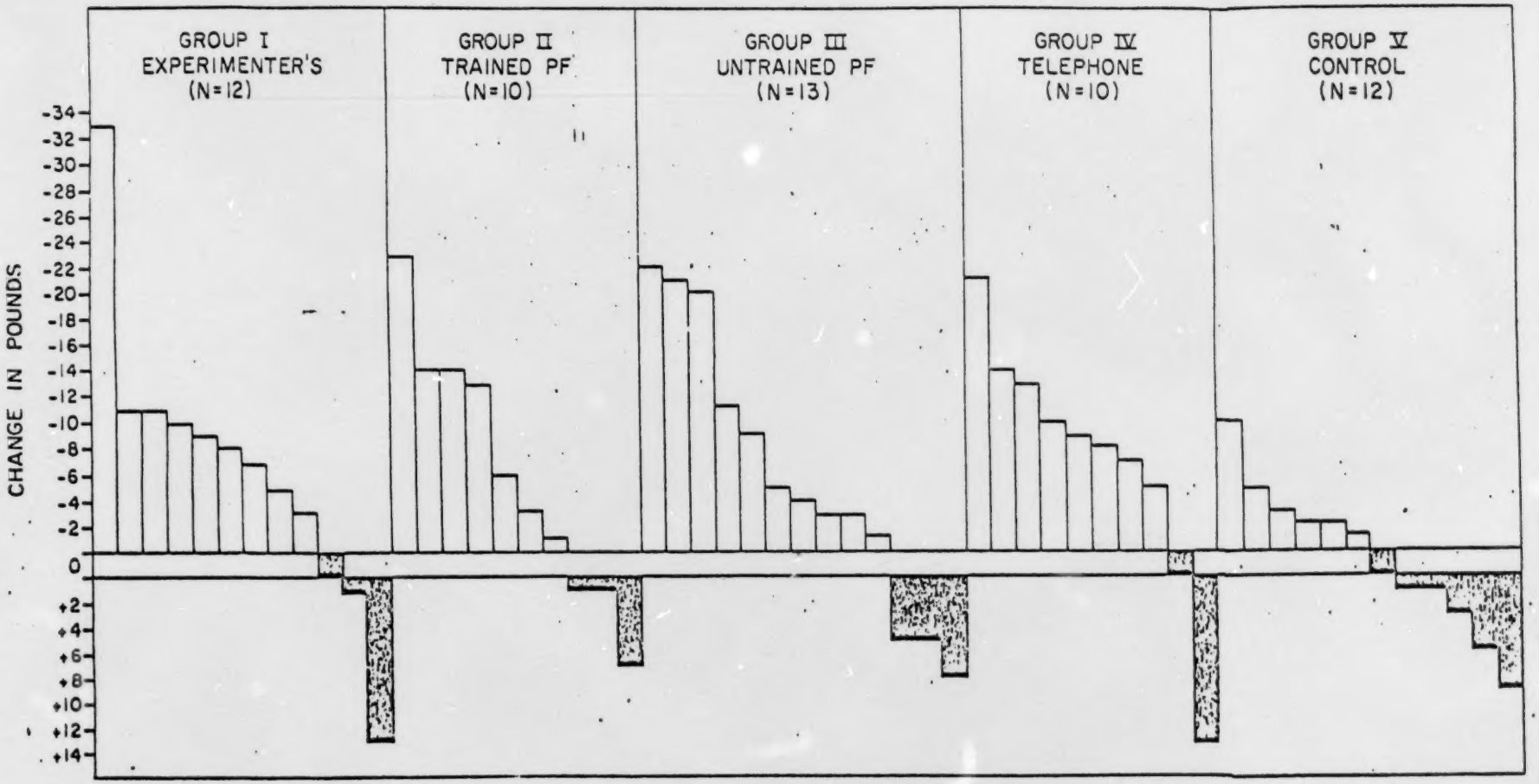
TABLE 2

Descriptive Information and Change Measures

For Four Treatment Groups

Group Description	Descriptive Information					Change Measures				
Group	N	Average age in yrs	Average Education in years	Average Weight in lbs	Average % Overweight	Average change in # lbs	Weekly rate of change in lbs	Change in % body weight	Weekly rate of change in % body weight	# of indiv. losing weight
I	11	25.2	16.1	151.5	25.8	-7.0	.77	5.74	.63	10 of 11
II	9	21.5	15.0	175.2	32.5	-9.7	1.08	7.30	.81	9 of 9
III	8	22.0	14.6	146.2	18.1	-8.0	.88	6.46	.71	8 of 8
IV	9	20.3	14.5	158.0	25.3	-7.2	.80	6.20	.69	8 of 9

FIGURE 1


GROUP I
EXPERIMENTER'S
(N=12)
GROUP II
TRAINED PF
(N=10)
GROUP III
UNTRAINED PF
(N=13)
GROUP IV
TELEPHONE
(N=10)
GROUP V
CONTROL
(N=12)
CHANGE IN POUNDS
-34
-32
-30
-28
-26
-24
-22
-20
-18
-16
-14
-12
-10
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-6
-4
-2
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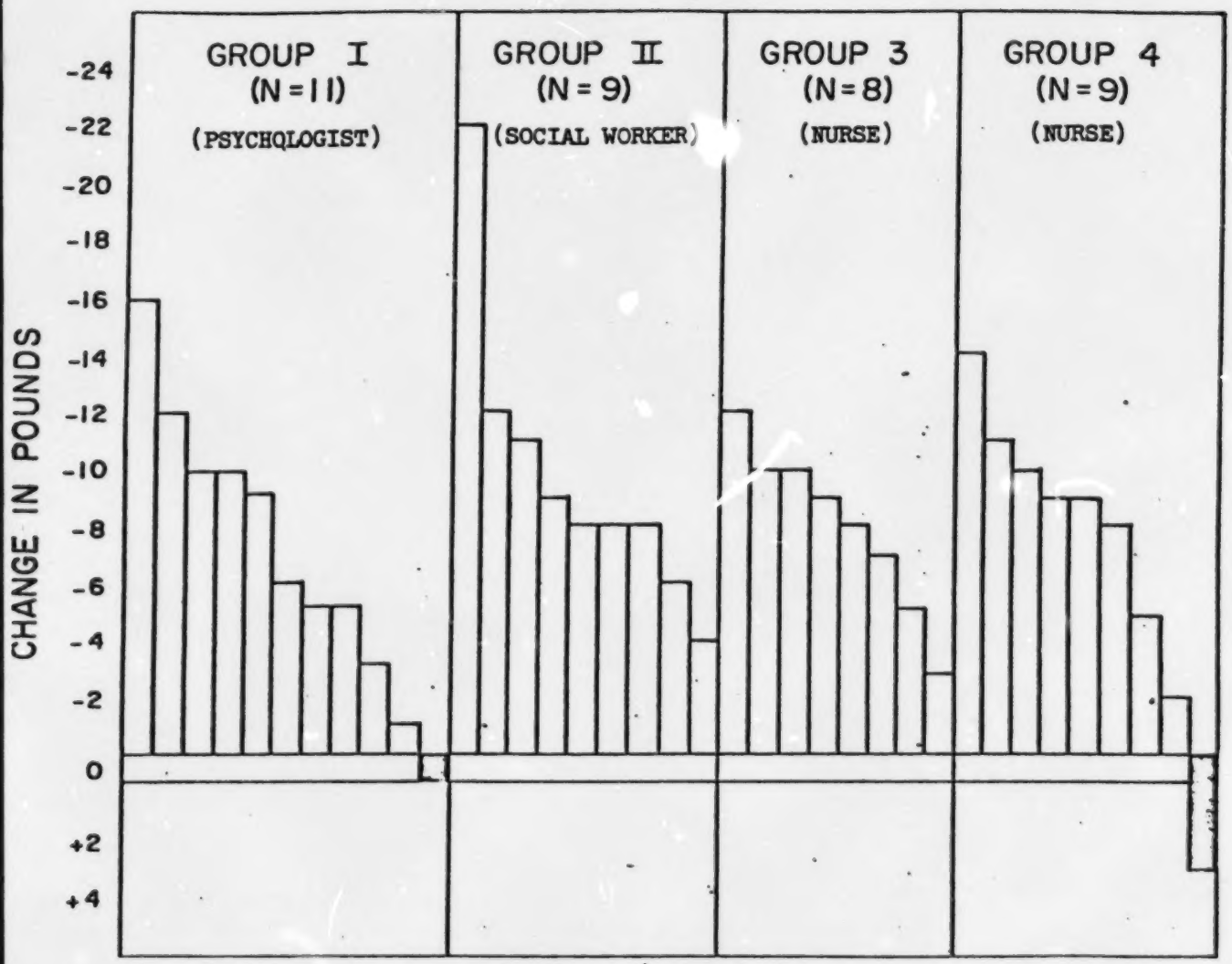
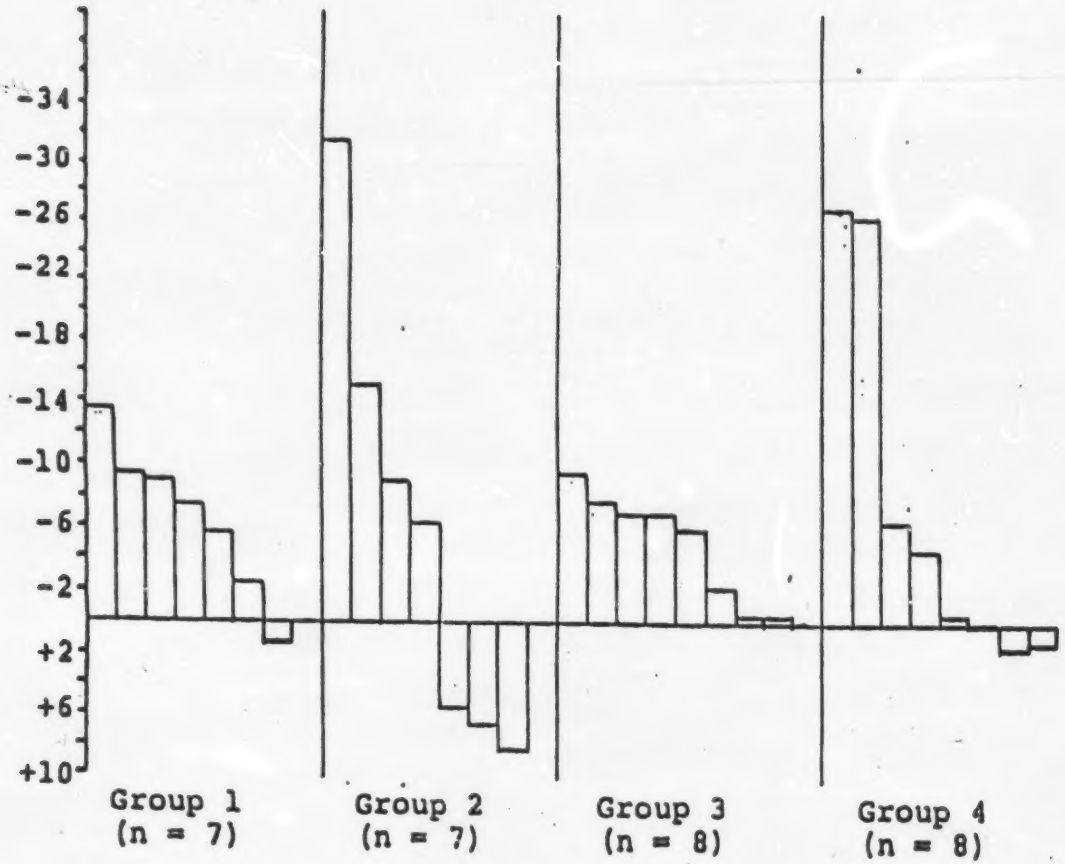
+2
+4
+6
+8
+10
+12
+14

FIGURE 2


GROUP I
(N = 11)
(PSYCHOLOGIST)
GROUP II
(N = 9)
(SOCIAL WORKER)
GROUP 3
(N = 8)
(NURSE)
GROUP 4
(N = 9)
(NURSE)
CHANGE IN POUNDS
-24
-22
-20
-18
-16
-14
-12
-10
-8
-6
-4
-2
0
+2
+4



GROUP I - 9 WEEKLY GROUP MEETINGS WITH THERAPIST.

GROUP II - 6 WEEKLY GROUP MEETINGS WITH THERAPIST, PLUS 3 INDIVIDUAL BRIEF MEETINGS.

GROUP III - 9 FIVE MINUTE MEETINGS WITH THERAPIST.

GROUP IV - 9 WEIGH INS, BIBLIO THERAPY, NO THERAPIST.

Figure 3. Individual Weight Losses at Six-Month Follow-up (n = 30)

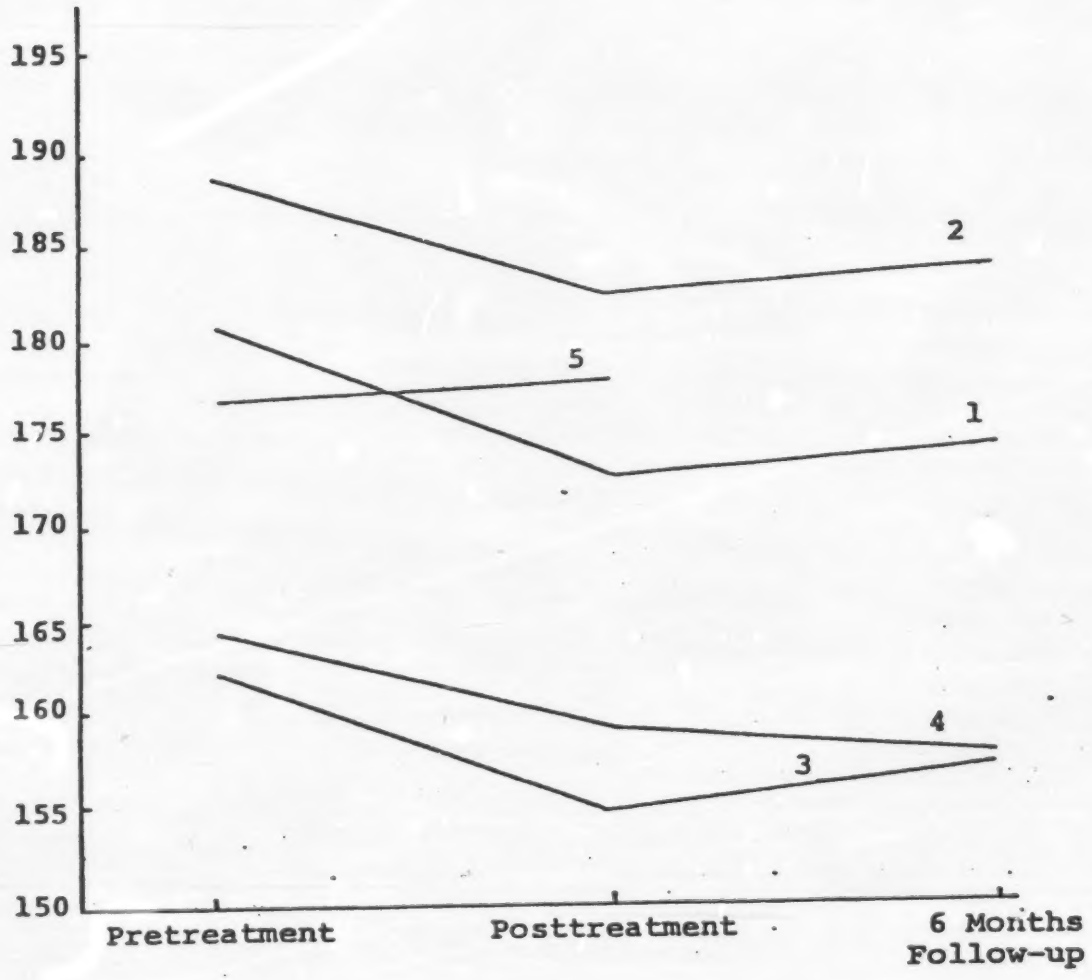


Figure 4. Mean Weights of Individuals with Complete Data (n = 30)

GROUP I - 9 WEEKLY GROUP MEETINGS WITH THERAPIST.

GROUP II - 6 WEEKLY GROUP MEETINGS WITH THERAPITS, PLUS 3 INDIVIDUAL BRIEF MEETINGS.

GROUP III - 9 FIVE MINUTE MEETINS WITH THERAPIST.

GROUP IV - 9 WEIGH INS, BIBLIO THERAPY, NO THERAPIST.